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## **Senegal**

### **Agricultural Biotechnology Annual**

#### **2011 Francophone West Africa Biotechnology Report**

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**Report Highlights**

West Africa saw progress with biotechnology on regional and national fronts. In November 2010, regional organizations, *West African Economic and Monetary Union (WAEMU)*, *Economic Community of West African States (ECOWAS)* and *Interstate Committee for Reducing Desertification in the Sahel (CILSS)*, drafted a joint regional biosafety framework, and all country members conducted national consultations and validated the draft, except for Mauritania and Sierra Leone. Burkina Faso increased Bt cotton production from 16 percent in marketing year (MY) 2009/10 to 66 percent in MY 2010/11 and approved Bt cowpea for confined field trials (CFTs). Burkina Faso proposes to amend its biosafety law to include strict liability provisions and liability for socio-economic damages. In December 2010, Mali signed a decree creating the *National Biosafety Committee (NBC)* and adopted a draft decree allowing its *Institut d'Economie Rurale (IER)* to authorize *Genetically Modified (GM)* cotton research.

## Section I. Executive Summary

Most West Africa countries have ratified the Cartagena Protocol on biosafety; however, only Burkina Faso, Mali, Ghana and Nigeria have functioning legislation allowing field trials of GM products. Harmonization between WAEMU<sup>1</sup>, ECOWAS<sup>2</sup> and CILSS<sup>3</sup> regional biosafety regulations is ongoing. A preliminary draft has been discussed at national consultations with almost all country members, except Mauritania and Sierra Leone. Next steps will be the incorporation of country comments into a final draft to be presented and reviewed at a regional meeting of experts from country members before being approved at the ministerial level. Bt cotton production in Burkina Faso increased from 16 percent in MY 2009/10 to 66 percent in MY 2010/11. Following Nigeria's CFTs on Bt cowpea, Burkina Faso will start conducting CFTs this quarter, as well. Bt cowpea is expected to become the next GM crop in West Africa that will help farmers increase their incomes by reducing pesticide use and improving productivity. Mali signed a decree to allow its biosafety framework to become operational by outlining the authorities, structure, responsibilities, and functions of the NBC and adopted a decree allowing IER to authorize GM cotton research in collaboration with *Compagnie Malienne pour le Développement des Textiles* (CMDT).

## Section II. Plant Biotechnology Trade and Production

Burkina Faso continues as biotechnology leader in West Africa with an operational framework for the production and marketing of GMOs, and, as demonstrated by Burkinabe farmers, a willingness to accept GM cotton. In addition, since 2009, *West and Central African Council for Agricultural Research and Development* (CORAF/WECARD) has led a project to facilitate adoption of Bt cowpea in select African countries. In Burkina Faso, the project is executed by *Institut de l'Environnement et de Recherches Agricoles* (INERA), and CFTs will begin this quarter. Mali will likely be the next West African country to conduct CFTs on Bt cowpea. Cowpea is considered the most important food crop in dry areas of tropical Africa. It is resistant to *Maruca Vitrata* pod borer that could reduce yields 50-70 percent and even up to 80 percent in severe infestations. According to [www.SciDev.net](http://www.SciDev.net), a not-for-profit website providing information on science and technology in the developing world, infestation by the *Maruca vitrata* pod borer has slashed the value of crops up to US\$300 million for smallholders in Africa, who produce nearly 5.2 million tons of cowpea and accounts for nearly 70 percent of global production.

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<sup>1</sup> WAEMU members include: Benin, Burkina Faso, Cote d'Ivoire, Guinea Bissau, Mali, Niger, Senegal, and Togo.

<sup>2</sup> ECOWAS members include: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo

<sup>3</sup> CILSS members include: Gambia, Guinea-Bissau, Mauritania, Senegal, Burkina Faso, Mali, Niger, Chad, and Cape Verde.

## **Section III. Plant Biotechnology/Biosafety Policy**

### **Regional Initiatives**

Based on the “roadmap” adopted in 2009, WAEMU, ECOWAS and CILSS have continued working towards the development of a harmonized regional biosafety framework to which could also respond to the challenges of protecting the environment as well as human and animal health. A committee, represented by all three institutions, wrote a preliminary draft legislation which has been submitted to WEAMU and ECOWAS lawyers for consideration. After it was validated during a meeting organized in Cote d’Ivoire in August 2010 by the three institutions, the draft was sent to each country member for review and comments. Next steps will be the incorporation of country comments into a final draft to be presented and reviewed at a regional meeting of experts from country members before being approved at an ECOWAS and WAEMU ministerial meeting. However, dates are not set yet.

### **Burkina Faso**

Burkina Faso is the only francophone West African country with a functioning biosafety regulatory system and the only country that has approved commercial release and use of biotech products by farmers and other agricultural users. Production of Bt cotton jumped to 66 percent in MY 2010/11 compared to 16 percent the previous marketing year.

Burkina Faso recently drafted an amendment to its biosafety law. The proposed draft amendment improves the legal status of the *National Biosafety Authority* (NBA) and increases its autonomy. It also expands strict liability provisions for damages, including socio-economic damages, caused by products derived from biotechnology. In addition, the draft amendment requires operators to contribute to a special fund to repair damage or prejudice. A vote on the amendment was scheduled for the first week of July 2011, but was suspended until further notice to allow more discussion.

### **Mali**

In December 2010, the *Government of Mali* (GOM) finally signed a decree establishing the authorities, structure, responsibilities, and functions of the *National Biosafety Committee* (NBC) created by law in December 2008. NBC will be in charge of ensuring compliance with the biosafety regulation concerning import, export, transit, confined use, environmental release, and marketing of food, feed, and processed products derived from biotechnology. NBC will also provide guidance and make recommendations on biosafety and biotechnology issues to the NBA who will issue authorization to carry out the activities. NBC’s recommendations are based on studies resulting from three specialized subcommittees:

- Risk assessment and management
- Public participation
- Regulatory and legal

NBC is chaired by the Minister for Environment or its representative and is comprised of

representatives from government departments, research institutes, farmer associations and organizations from the public and private sectors. The Minister for Environment determines the attributes, composition and operation of the three subcommittees.

Also in December 2010, Mali adopted a draft decree outlining detailed GMO testing procedures and during the same month permitted the IER's Board of Directors to authorize research on GM cotton which should be executed in collaboration with CMDT in accordance with provisions of the Biosafety Law and its implementing regulations.

## **Senegal**

Senegal's *National Biosafety Framework* is not functional yet despite its biosafety law has already been signed by the President in July 2009. Under the framework, Senegal must establish a NBA and NBC. When established, there will be need for capacity building on biotechnology and biosafety for members of the two groups, and focusing primarily on biosafety risk assessment. The NBA and NBC were to be formed by the summer of 2011, but the government's selection process was delayed.

## **Section IV. Plant Biotechnology Marketing Issues**

Marketing remains limited to countries that have allowed commercialization of GM crops. Although most West African countries have ratified the Cartagena Protocol on biosafety, only Burkina Faso, Mali, Ghana, and Nigeria have functioning legislation that allows field trials of GMOs.

When Senegal's *Biosafety Law* is finally implemented, it will state that any GMO or its by-products intended to be directly used for the human or animal food, to be transformed, or to be introduced into the environment or in the market on the national territory must be packaged and labeled in indelible ink and tamper proof to ensure protection of ethical and cultural values, avoiding risks to the environment and human and animal health. Those products must be packaged and labeled by the producer or the shipper and state, "Produced with Genetically Modified Organisms" or "Contains Genetically Modified Organisms" and conform to additional standards defined by the Competent National Authority, in discussion with the other concerned administrations.

## **Section V. Plant Biotechnology Capacity Building and Outreach**

Earlier this year, FAS and Department of State posts in Cameroon, Mali, and Senegal received funds under the Biotech Outreach Program of the Department of State's Bureau of International Information Programs to finance agricultural biotechnology conferences and seminars. The program invites a U.S. speaker to promote biotechnology and encourage adoption of predictable, transparent, science-based regulatory policies and practices. However, considering Senegal had not yet established its NBA and NBC as planned and due to other unforeseen circumstances, the seminars were postponed. FAS Dakar plans to re-apply for funds in FY 2012.

Fortunately, USDA FAS's Cochran Fellowship program will send select candidates to Michigan State University in East Lansing, Michigan, to attend biotechnology and biosafety short courses. Cochran

provides two to three weeks of training for senior and mid-level specialists and administrators from public and private sectors from middle-income countries, emerging markets and emerging democracies to improve their agricultural systems and strengthen and enhance trade links with the United States.

One Fellow from Senegal and one from Mali will participate in the biosafety short course designed to address all aspects of biosafety for environmental release and commercialization of GMOs. It will cover the theory and practice of environmental risk assessment and management, and communication of benefits and risks of agricultural biotechnology applications.

Two fellows from Burkina Faso, one from Senegal and one from Chad will participate in the biotechnology short course that will cover biotechnology research, policies, management, networking and public outreach components.

## **Section VI. Animal Biotechnology**

The *Senegalese Agricultural Research Institute* (ISRA) and a few other public research centers have ongoing research activities relevant to the production of molecular vaccines for local use. However, output is quite small owing to lack of equipment and funding.

## **Section VII. References**

- African Centre for Biosafety – <http://www.biosafetyafrica.net>
- African Union - New partnership for Africa's development (AU-NEPAD)  
<http://www.africa-union.org/root/au/AUC/SpecialPrograms/nepad/nepad.htm>  
<http://www.nepad.org>
- Convention on Biological Diversity – <http://www.cbd.int/biosafety>
- Interstate Committee for Reducing Desertification in the Sahel (Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel) - <http://www.cilss.bf>
- Cochran program <http://www.fas.usda.gov/icd/cochran/cochranarchive.asp>
- West and Central African Council for Agricultural Research and Development  
CORAF/WECARD - <http://www.coraf.org>
- West African Economic and Monetary Union (WAEMU) - <http://www.uemoa.int>

## **Section VIII. Acronym list**

CFTs	Confined Field Trials
CILSS	Interstate Committee for Reducing Desertification in the Sahel
CMDT	Compagnie Malienne pour le Développement des Textiles
CORAF/WECARD	West and Central African Council for Agricultural Research and Development
ECOWAS	Economic Community of West African States
GM	Genetically Modified
GMOs	Genetically Modified Organisms
GOM	Government of Mali
IER	Institut d'Economie Rurale
INERA	Institut de l'Environnement et de Recherches Agricoles
ISRA	Senegalese Institute for Agricultural Research
NBC	National Biosafety Committee
NBA	National Biosafety Authority
WAEMU	West African Economic and Monetary Union